# Averin Pavel

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## Education

- **Saint Petersburg State University** — Saint Petersburg, Russia
  *Bachelor of Software Engineering; GPA: 4.83/5.0* — *Sep 2022 – Present*

## Experience

- **Scalo** — Wrocław, Poland (Remote)
  *C#/ASP.NET Developer* — *2022 – 2024*
  - **Web Application Development**: Developed and maintained enterprise web applications using ASP.NET Core and C#.
    *Technologies:* ASP.NET Core, Entity Framework, SQL Server, Azure.
  - **API Integration**: Implemented RESTful APIs and integrated with third-party services.
    *Technologies:* Web API, JSON, OAuth, Swagger.
  - **Database Optimization**: Improved query performance and database schema design for high-traffic applications.
    *Technologies:* SQL Server, Entity Framework Core, LINQ.
- **HwProj2 (Open Source)** — Remote
  *Contributor* — *2024 - Present*
  - **University Database Integration**: Integrated the university's student database into HwProj2, enabling **automated student sign-ups**.
    *Technologies:* ASP.NET Core, LDAP, C#, Active Directory.
    *Pull Requests:* #470, #575, #583 (all merged)

## Projects

- **miniPython**: Interpreter for a Python subset written in OCaml, featuring lexical scoping and first-class functions.
  *GitHub:* github.com/Salvatore112/miniPython
- **BasedML**: Compiler from MiniML (OCaml subset) to LLVM IR, with optimizations for tail recursion and pattern matching.
  *GitHub:* github.com/Salvatore112/comp24/BasedML
- **Bitmanip Research Script**: Automated testing framework for researching compiler optimization of bit manipulation instructions across different architectures.
  *Technologies:* Shell scripting, C, RISC-V architecture.
  *GitHub:* github.com/Salvatore112/bitmanip-script
- **gem5 Processor Statistics Collector**: Python script for collecting and analyzing detailed CPU pipeline statistics from gem5 simulations.
  *Features:* Tracks instruction progression through pipeline stages, identifies performance bottlenecks.
  *Technologies:* Python, gem5 simulator, dataclasses.
  *GitHub:* github.com/Salvatore112/pfuzz/gem5_statistics

## Technical Skills

- **Languages**: Python, JavaScript/TypeScript, SQL, C#, OCaml, Go
- **Frameworks & Tools**: React, ASP.NET Core, LLVM, Git, Docker, gem5
- **Concepts**: APIs, Database Design, Compiler Construction, Automation, Computer Architecture